

ABSTRACT

The present invention provides a chemically-modified protein prepared by binding polyethylene glycol to a polypeptide characterized by being the product of expression by a host cell of an exogenous DNA sequence and substantially having the following amino acid sequence:

(Het)n

Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln  
Ser Phe Leu Leu Lys Cys Leu Glu Gln Val Arg  
Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu  
Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro  
Glu Glu Leu Val Leu Leu Gly His Ser Leu Gly  
Ile Pro Trp Ala Pro Leu Ser Ser Cys Pro Ser  
Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln  
Leu His Ser Gly Leu Phe Leu Tyr Gln Gly Leu  
Leu Gln Ala Leu Glu Gly Ile Ser Pro Glu Leu  
Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val  
Ala Asp Phe Ala Thr Thr Ile Trp Gln Gln Het  
Glu Glu Leu Gly Het Ala Pro Ala Leu Gln Pro  
Thr Gln Gly Ala Het Pro Ala Phe Ala Ser Ala  
Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala  
Ser His Leu Gln Ser Phe Leu Glu Val Ser Tyr  
Arg Val Leu Arg His Leu Ala Gln Pro

(n=0 or 1)

The chemically-modified protein according to the present invention has a neutrophils-increasing activity much more lasted than that of the intact human G-CSF, enabling fewer numbers of administration with a lower dose.

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